



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,963	03/27/2001	Klaus Lowack	GR 00 P 1583	9891
24131	7590	07/12/2006	EXAMINER	
LERNER GREENBERG STEMER LLP			TALBOT, BRIAN K	
P O BOX 2480			ART UNIT	PAPER NUMBER
HOLLYWOOD, FL 33022-2480			1762	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/817,963	<b>Applicant(s)</b> LOWACK ET AL.	
	<b>Examiner</b> Brian K. Talbot	<b>Art Unit</b> 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/27/05</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1762

1. The amendment filed 4/26/06 has been considered and entered. Claims 1-3 have been canceled. Claim 8 has been added. Claims 4-8 remain in the application.
2. In light of the arguments filed 4/26/06, the 35 USC 112 rejection has been withdrawn.

***Claim Rejections - 35 USC § 103***

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calabrese et al. (5,468,597) in combination with Greenwood et al. (5,679,498) or vice versa further in combination with Bickford et al. (5,800,858)

Calabrese et al. (5,468,597) teaches preparing a substrate, forming ligating groups over said substrate, forming a photoresist and imaging over the ligating layer, selectively applying a seeding layer to the ligating layer and plating (col. 3, lines 40-55). The photoresist may also be applied to the substrate prior to applying the ligating layer. The substrate is silicon.

Art Unit: 1762

It is noted that the claimed “activating step” is achieved by the prior art by “ligating layer”.

Greenwood et al. (5,679,498) teaches a method for producing high density multi-layered integrated circuits carriers. Coating a base surface with a photosensitive dielectric material, curing and developing the photosensitive dielectric layer, depositing a catalyst to form a sensitized dielectric layer, applying a photoresist layer, developing and curing the photoresist layer, forming conductors on the exposed dielectric layer and repeating the steps (abstract and col. 8, lines 10-35)). The photosensitive layer having a thickness of 0.0007-0.0009 inches. The imaging and patterning is performed on both dielectric layers (photosensitive and photoresist).

Calabrese et al. (5,468,597) fails to teach performing this process comprising two insulating layers overlying a substrate.

Greenwood et al. (5,679,498) fails to teach selective plating of the seeding layer after patterning the photosensitive layer.

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Calabrese et al. (5,468,597) process by performing the process on an insulating layer atop a substrate as evidenced by Greenwood et al. (5,679,498) or to have modified Greenwood et al. (5,679,498) process by performing a “pretreatment” step comprising pretreating/patterning as evidenced by Calabrese et al. (5,468,597) with the expectation of achieving similar results, i.e. selective metallization.

Greenwood et al. (5,679,498) and Calabrese et al. (5,468,597) fail to teach the photosensitive thickness of 5 microns (2.1 mils).

Bickford et al. (5,800,858) teaches a similar process whereby the thickness of the

Art Unit: 1762

polymer films are from 0.3 to 5 mils in thickness which are imaged, developed and seeded prior to metallization. More than one layer of the polymer can be utilized with the layers being of the same polymeric material.

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Greenwood et al. (5,679,498) and Calabrese et al. (5,468,597) process by utilizing a photosensitive thickness of that claimed with the expectation of obtaining similar results.

***Response to Amendment***

4. Applicant's arguments filed 4/26/06 have been fully considered but they are not persuasive.

Applicant argued that the photoresist layer in Calabrese et al. (5,468,597) is not an insulating layer and that the photosensitive dielectric layer in Greenwood et al. (5,679,498) is not the same as the photoresist layer.

The Examiner agrees in part. First off, claims 4,7 and 8 do not require the first and second insulating layer be of the same material. Secondly, the rejection is based upon a combination rejection wherein Bickford et al. (5,800,858) teaches a similar process whereby the first and second polymer layer can be of the same material. There is no requirement that the motivation to make the combination be expressly articulated in one or more of the references; the teaching, suggestion or inference can be found not only in the references but also from

Art Unit: 1762

knowledge generally available to one of ordinary skill in the art. *Ashland Oil v. Delta Resins* 227 USPQ 657 (CAFC 1985). The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In Re McLaughlin* 170 USPQ 209 (CCPA 1971); *In Re Rosselet* 146 USPQ 183 (CCPA 1969). References are evaluated by what they collectively suggest to one versed in the art, rather than by their specific disclosures. *In Re Simon*, 174 USPQ 114 (CCPA 1972); *In Re Richman* 165 USPQ 509, 514 (CCPA 1970).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

Art Unit: 1762

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 7/7/06  
Brian K Talbot  
Primary Examiner  
Art Unit 1762

BKT